Fort George G. Meade

Groundwater Contamination,
Odenton, Maryland
Interim Measures Update

Restoration Advisory Board Meeting
March 25, 2010

Study Areas

- 1-mile radius surrounding monitoring wells MW-125d/123s & MW-126d/124s located at the intersection of North Patuxent Road and Dovetail Lane, Odenton
- Old Dairy Farm Road, Gambrills

Monitoring Well Results

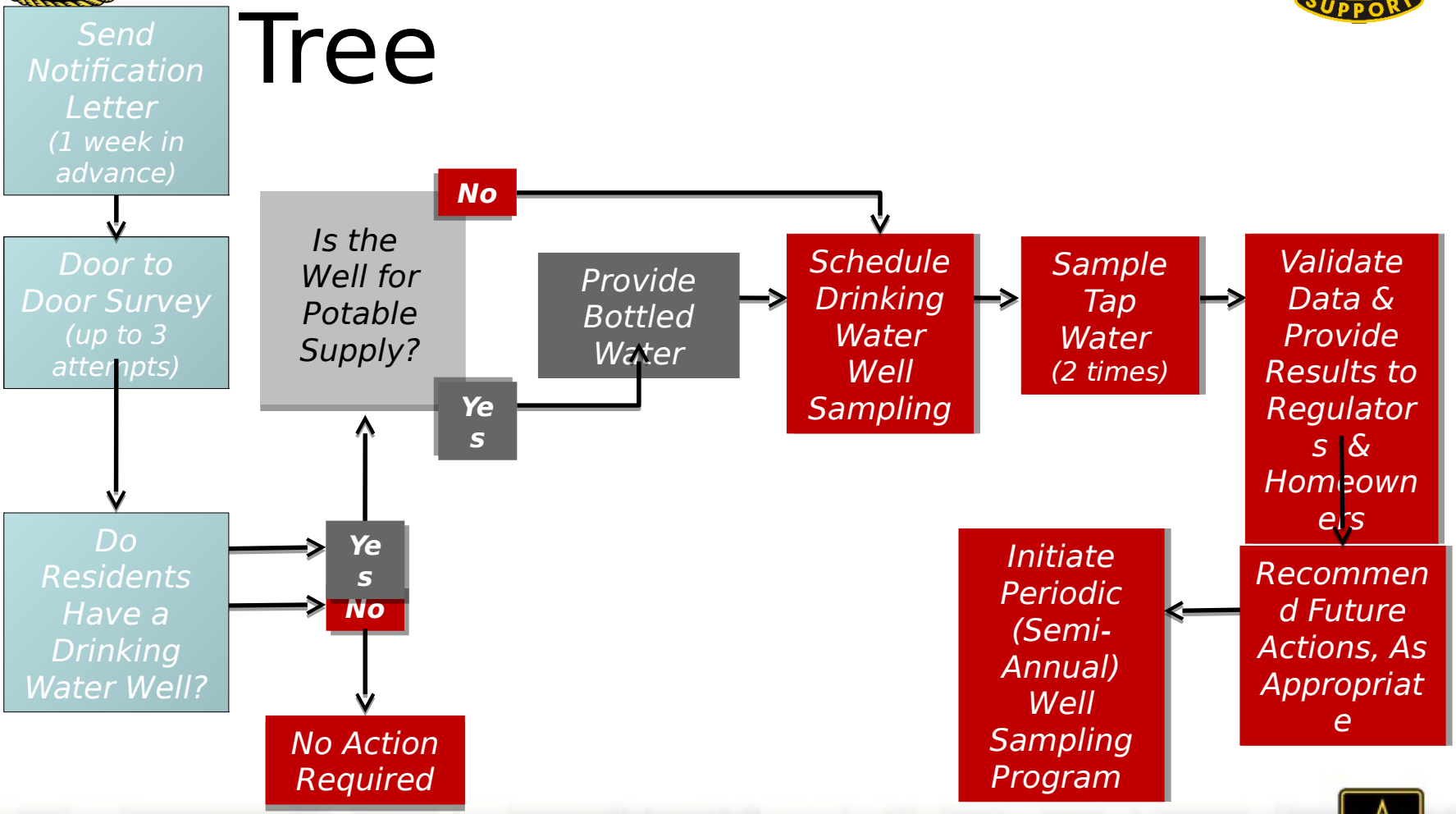
Analytes	Maximum Contaminant Level (MCL)	MW-125d	2004 Results	2005 Results	2008 Results	March 2009 Results	June 2009 Results	MW-126d	2004 Results	2005 Results	2008 Results	March 2009 Results	June 2009 Results
METALS													
Lead	15		**16.3**	ND	NT	NT	NT		14.4	ND	NT	NT	NT
Thallium	2		**6.9**	ND	NT	NT	NT		ND	ND	NT	NT	NT
VOLATILE ORGANICS													
Acetone	-		49.2	120	ND	ND	ND		ND	ND	ND	ND	ND
CCl_4	5		**21.3**	**20**	**25**	**20.3**	**17.0**		4.1	3	**51**	**21.8**	**65.8**
Chloroform	-		0.85J	0.8	1J	ND	1.0		0.43J	0.29	2J	ND	1.6
DCE	70		ND	ND	<0.8	ND	ND		0.42J	2.3	3J	0.69J	2.3
PCE	5		2.8	1.2	**5**	0.66J	ND		**12.4**	**6.5**	**51**	**11.5**	**31.4**
Toluene	1,000		0.36J	1.8	ND	ND	ND		0.5J	ND	ND	ND	ND
METALS			All Below MCLs		NT	NT			All Below MCLs		NT		NT
TCE	5		0.5	0.28	1 J	ND	ND		3.5	2.4	**16**	4.9	**13.1**
VOLATILE ORGANICS			Dry Well		All ND	All ND			All ND		All ND		All ND

Analytes	MW-123s	2004 Results	March 2009 Results	June 2009 Results	MW-124s	2004 Results	March 2009 Results	June 2009 Results

All results in micrograms per liter (ug/L)

NT = Not Tested

Drinking Water Well Sampling Decision Tree

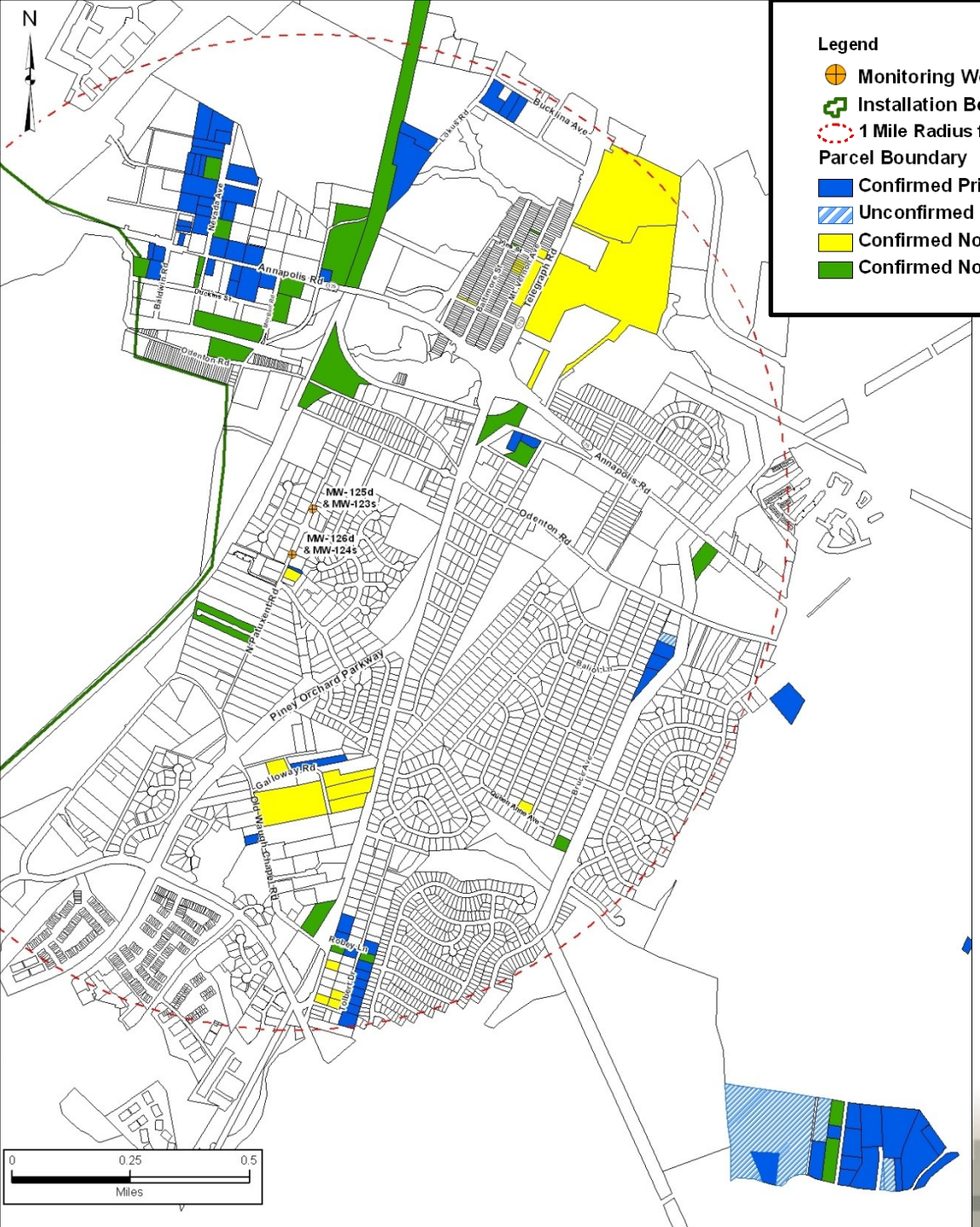


Drinking Water Well Survey

- Initiated April 29, 2009
- Concluded January 21, 2010
- Over 2,500 properties within 1-mile radius
- 16 additional properties on Old Dairy Farm Road
- Results; 1,697 surveys answered
  - 75 Confirmed Primary Drinking Water Source
  - 4 Unconfirmed Primary Drinking Water Source
  - 17 Confirmed Non-Drinking Water Source
  - 24 Confirmed No Well on Property

Definitions:

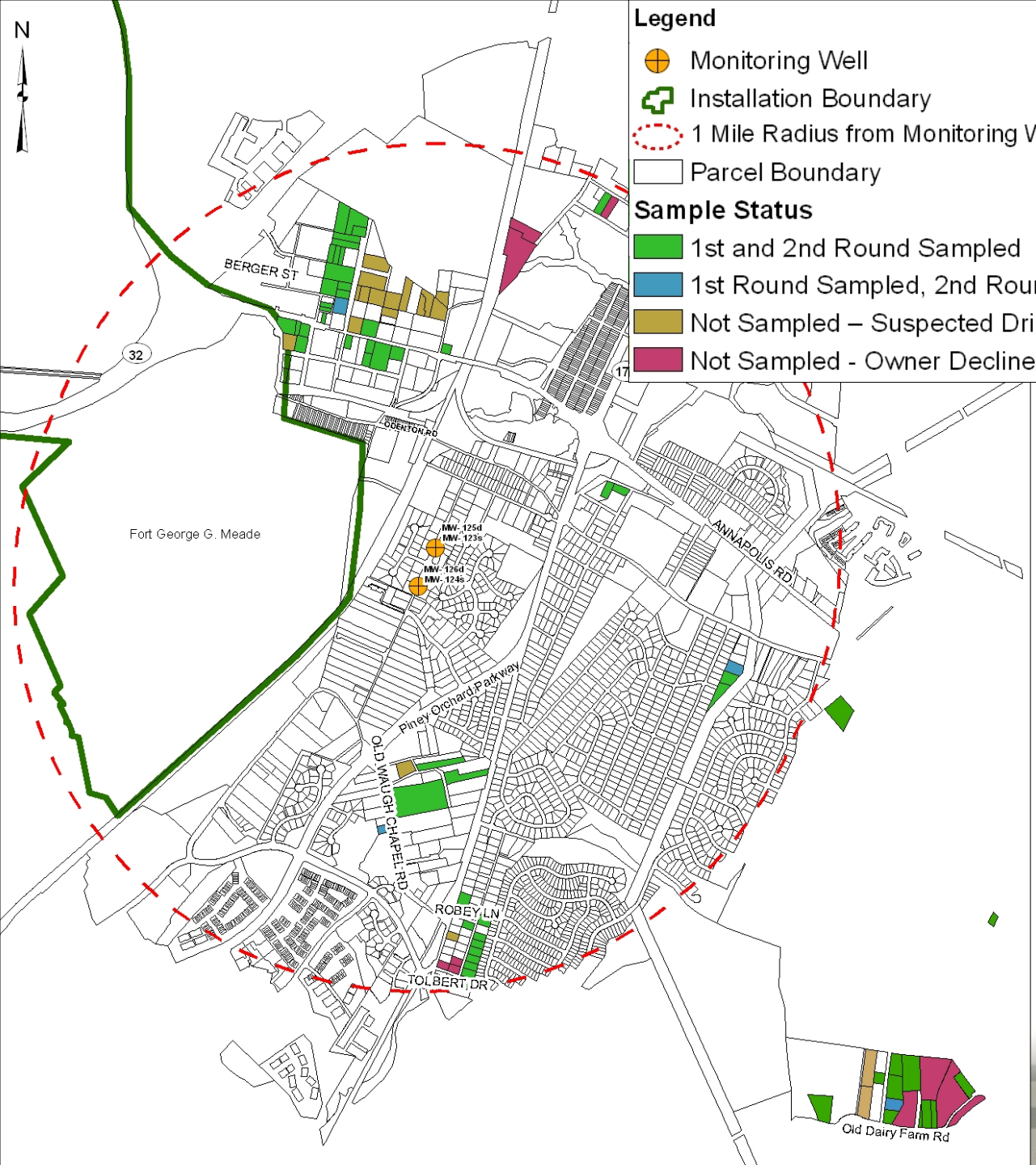
- *Primary Source: Well is used as sole source of drinking water for property*
- *Non-Drinking Water Source: Well is present on property, but public water is used as drinking water source. Well water may be used for other purposes, such as watering gardens.*
- *Confirmed: A response to survey was received from property owner/tenant.*
- *Unconfirmed: No response to survey to date, but Anne Arundel County data indicates a well is present on the property.*



Drinking Water Well Survey Results

Drinking Water Well Sampling

- Initiated June 5, 2009
- 75 Confirmed drinking water wells
- Round #1
  - 57 drinking water wells sampled
- Round #2
  - 53 drinking water wells sampled
- Reasons why all 75 confirmed wells were not sampled
  - Owner/tenant unresponsive to sampling request
  - Owner/tenant unresponsive to attempts to schedule
  - Owners declined sampling



Drinking Water Well Sampling Results

Drinking Water Well Results

Street	Addresses with Detections Detections		DCE (MCL - 70 µg/L)		DCA (MCL - 5 µg/L)		TCE (MCL - 5 µg/L)		PCE (MCL - 5 µg/L)		CCl_4 (MCL - 5 µg/L)		Methylene Chloride (MCL - 5,900 µg/L)		1,1,1-Trichloroethane (MCL - 5,900 µg/L)	
	Round 1	Round 2	# of Detections	Range (µg/L)	# of Detections	Range (µg/L)	# of Detections	Range (µg/L)	# of Detections	Range (µg/L)	# of Detections	Range (µg/L)	# of Detections	Range (µg/L)	# of Detections	Range (µg/L)
Baliol Ln	*0*	*1*	--	--	--	--	--	--	1	0.72J	--	--	--	--	--	--
Berger St	0	1	--	--	1	0.51 J	--	--	--	--	--	--	--	--	--	--
Galloway Rd	1	1	--	--	--	--	2	3.2 - 3.5	2	1.3 - 1.9	--	--	--	--	--	--
Murray Rd	2	2	--	--	--	--	--	--	2	0.94J - 2.6	3	0.88J - 1.2	--	--	--	--
Nevada Ave	6	7	6	1.1 - 1.7	--	--	3	0.46J - 0.87J	8	0.60J - **5.7**	--	--	1	0.60J	--	--
Old Waugh Chapel Rd	1	0	--	--	--	--	--	--	--	--	--	--	--	--	1	0.54J
Robey Ln	2	3	5	0.22J - 0.44J	--	--	--	--	--	--	--	--	--	--	--	--
Tolbert Dr	0	1	1	0.18J	--	--	--	--	--	--	--	--	--	--	--	--

J = Estimated Value

MCL = Maximum Contaminant Level for tap water as defined by the US Environmental Protection Agency

µg/L = one microgram per liter which is equivalent to one part per billion

**Only properties with detections related to the Interim Measures for Monitoring Wells 125d and 126d study are included in the table.*

** ***Bold*** *indicates value above MCL. Only one sample was above the MCL and resident is receiving bottled water.*

***Data is current as of 25 March 2010

DCE = Dichloroethene

DCA = Dichloroethane

TCE = Trichloroethene

PCE = Tetrachloroethene

CCl_4 = Carbon Tetrachloride

Evaluation of Drinking Water Well Interim Results

- No MCL exceedances downgradient of MWs 125d/123s and 126d/124s
- Only one property above MCL within study area
  - Nevada Ave
    - Above MCL in September 2009 and February 2010
    - Resident supplied bottled water (beginning July 2009)
    - Cross-gradient and approximately 0.75 miles from MW-125d/123s and MW-126d/124s
    - Monthly drinking water sampling initiated

Nevada Avenue Monthly Sampling - Interim Results

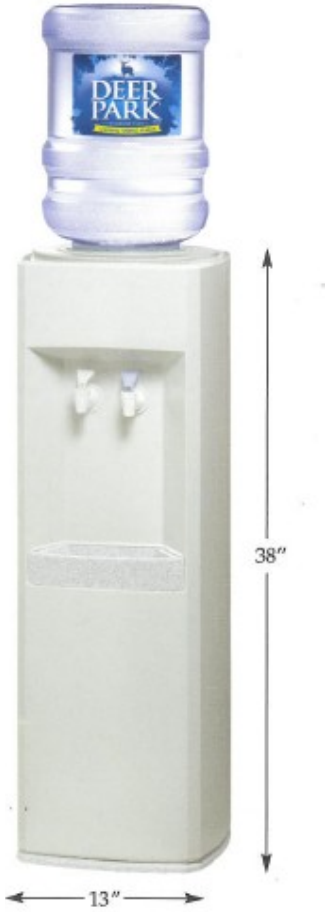
- Initiated in October 2009 for property with MCL exceedance and 2 adjacent properties
- One additional MCL exceedances to date (Feb 2010)
- [illegible]

Month	*Dichloroethene (MCL - 70 µg/L)*		*Tetrachloroethene (MCL - 5 µg/L)*		*Trichloroethene (MCL - 5 µg/L)*	
	# of Detections /Samples	Range (µg/L)	# of Detections	Range (µg/L)	# of Detections /Samples	Range (µg/L)
Oct 09	1/1	1.7	1/1	4.5	1/1	0.77J
Nov 09	3/3	1.1-1.8	3/3	2.7-5.0	2/3	0.71J-0.84J
Dec 09	3/3	1.7-1.9K	3/3	3.6-4.6	3/3	0.52J-0.68J
Jan 10	2/2	1.4-1.6	2/2	3.8-4.9	0/2	--
Feb 10	3/3	1.4-1.9	3/3	4.4-5.3	3/3	0.57J/0.85J

Data Qualifiers:
- *K = reported value may be biased high*
- *J= estimated concentration below the method detection limit*

Bottled Water

- Bottled water is supplied to properties:
  - Identified drinking water drinking water well, and
  - Used as primary source for drinking water (i.e., not connected to county water), and
  - Accepted by tenant/owner
- Status:
  - 43 properties supplied water to date
  - Additional deliveries available



Next Steps

- Complete private well survey – send certified letters requesting participation
- Complete drinking water well sampling
- Continue to supply bottled water
- Reporting
  - Survey Summary Report (Apr 2010)
  - Round #1 Sample Summary Report (Apr 2010)
  - Interim Measures Report (May 2010)

Additional Information

- Additional information available at:
  - Fort Meade Environmental Management System (EMS) website: http://www.fortmeade-ems.org
  - U.S. Environmental Protection Agency website on Fort Meade: http://www.epa.gov/reg3hwmd/super/sites/MD9210020567/index.htm
  - Maryland Department of Environment website: http://www.mde.state.md.us/
  - Anne Arundel County Department of Health website: www.aahealth.org
  - Agency for Toxic Substances and Disease Registry website for chemical factsheets: http://www.atsdr.cdc.gov/az/a.html
- A copy of this presentation can be found on the Fort Meade EMS website

Points of Contact

U.S. Army Garrison Fort George G. Meade
Directorate of Public Works-Environmental Division
2212 Chisholm Avenue, Suite 5115
Fort Meade, Maryland 20755-7068

- Michael (Mick) Butler
  - Environmental Division Chief
  - 301-677-9188
  - mick.butler@us.army.mil
- Paul Fluck, PG, REP
  - Environmental Restoration Manager
  - 301-677-9365
  - paul.v.fluck@us.army.mil